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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,729	05/24/2006	Dan Shang	CN03 0056 US1	6461
65913	7550	12/07/2009	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			SARWAR, BABAR	
			ART UNIT	PAPER NUMBER
			2617	
			NOTIFICATION DATE	DELIVERY MODE
			12/07/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

### Office Action Summary

**Application No.**

10/580,729

**Applicant(s)**

SHANG ET AL.

**Examiner**

BABAR SARWAR

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/14/2009 has been entered.
2. **Claims 1, 7, 14, 16** have been amended.
3. **Claims 1-20** are currently pending.

### ***Claim Objections***

4. **Claims 1, 7, 14 and 16** are objected to because of the following informalities:  
The claims recite the term “**P2P**”. The Examiner suggests spelling the term out.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 4, 5, 7, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobus Haartsen (US 6,574,266 B1), hereinafter referenced as Haartsen.**

Consider **claims 1, 7, 14, 16**, Haartsen discloses a method to be performed by a UE (user equipment) **(Abstract, Fig. 9, where Haartsen discloses remote terminals establishing a direct communication link)**, comprising: detecting downlink signals of an active cell in which said UE is camping and adjacent cells **(Col. 12:28-34, where Haartsen discloses the remote terminals transmitting a message to the base station for assignment of new channels or hop sequence upon detection of deterioration of the quality of link, therefore detecting downlink signals of an active cell and adjacent cells)**; judging whether there exists a suitable cell whose link performance is a predefined value higher than that of said active cell for both the UE and another UE, according to the detecting result **(Col. 12:28-37, Figs. 7A-D, where Haartsen discloses both remote terminals handing over to a new coverage area covered by a different base station, therefore judging a better/ suitable link performance for both the UE and another UE, according to the detecting result)**; sending a detection report message to a network system to start a judging procedure of said network system if there exists said suitable cell **(Col. 12:28-34, Figs. 7A-D, where Haartsen discloses the remote terminals transmitting a message to the base station for assignment of new channels or hop sequence upon detection of deterioration of the quality of link, therefore sending a detection report message)**, and said judging procedure deciding whether said UE and the another UE in P2P communication can handover into said suitable cell to continue communication in P2P communication mode **(Col. 12:28-49, Figs. 7A-D, where Haartsen discloses both remote terminals handing over to a new coverage area covered by a different**

**base station and continuing their Ad-Hoc connection in the new coverage area, therefore the judging procedure deciding whether both UEs can handover into said suitable cell to continue in P2P communication mode).**

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2, 3, 6, 8-10, 12, 13 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen in view of Klein Gilhousen et al. (US 6546058 B1), hereinafter referenced as Klein.**

Consider **claim 2**, Haartsen discloses everything claimed as implemented above (see claim 1). However, Haartsen does not explicitly disclose wherein said judging includes: judging whether there exist candidate cells whose link performance can meet the requirement for communication quality in said adjacent cells, according to the result of detecting downlink signals; judging whether there exists said suitable cell in the candidate cells if there exist the candidate cells. Klein discloses that said judging includes: whether there exist candidate cells whose link performance can meet the requirement for communication quality in said adjacent cells, according to the result of detecting downlink signals **(Col. 2: 15-22, where Klein discloses the mobile unit sending message to the base station identifying the new base station upon exceeding a predetermined threshold level of pilot signal strength)** and judging

whether there exists the suitable cell in the candidate cells if there exist the candidate cells (**Col. 2 lines 11-57, Figs. 1-3 where Klein discloses the mobile unit sending message to the base station identifying the new base station and establishing communication with the new base station, therefore judging whether there exists the suitable cell in the candidate cells**).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Haartsen with the teachings of Klein for the purpose of enhancing the performance of the network by having an uninterrupted communication between remote terminals as discussed by Klein (**Col. 5:57-59**).

Consider **claim 3**, the combination teaches everything claimed as implemented above (see claim 2).In addition, Klein discloses sending a report message about candidate cells to said network system to report said candidate cells to said network system (**Col. 2: 15-22, where Klein discloses the mobile unit sending message to the base station identifying the new base station**).

Consider **claim 4**, Haartsen discloses everything claimed as implemented above (see claim 1).In addition, Haartsen discloses receiving a cell handover command from said network system; establishing a P2P connection with said another UE in said suitable cell (**Col. 12:28-49, Figs. 7A-D, where Haartsen discloses the base station sending a message to the new base station regarding handover and informing the new base station about ongoing ad hoc communication/connection**).

Consider **claim 5**, Haartsen discloses everything claimed as implemented above (see claim 4).In addition, Haartsen discloses releasing the P2P connection in said active

cell; sending a message for completing cell handover to said network system (**Abstract, Col. 12: 28-49, Fig. 7D, where Haartsen discloses base stations taking over control when the remote terminals 240, 250 listen to the broadcast of channel of the new base station and establish connection with the new base station i.e. connection is released**).

Consider **claim 6**, the combination teaches everything claimed as implemented above (see claim 1). In addition, Klein discloses receiving a detection control message from said network system; sending a detection report message about the link performance of said active cell to said network system, according to the detection control message (**Col. 2 lines 34-57, Figs. 1-3 where Klein discloses the mobile unit monitoring the pilot signal and reporting the event, the system controller generating a message to identify a new active set of base station**).

**Claim 8**, as analyzed with respect to the limitations as discussed in claim 2.

Consider **claim 9**, the combination teaches everything claimed as implemented above (see claim 8). In addition, Haartsen discloses establishing a signaling link between said first and second UEs if the requirement for communication quality is met; sending a cell handover command to said first and second UEs so that said first and second UEs can establish P2P connection in said suitable cell (**Col. 12:28-49, Figs. 7A-D, where Haartsen discloses both remote terminals handing over to a new coverage area covered by a different base station and continuing their Ad-Hoc connection in the new coverage area, therefore said suitable cell to continue in P2P communication mode**).

Consider **claim 10**, the combination teaches everything claimed as implemented above (see claim 8). In addition, Haartsen discloses that sending a command for maintaining P2P communication to said first and second UEs so that said first and second UEs can continue P2P communication in said active cell if the link performance of said first and second UEs in said active cell both can meet the requirement for communication quality (**Col. 12: 1-49, Figs. 5, 7A-D, where Haartsen discloses remote terminals handing over to adjacent cells based on communication quality requirement i.e. they will not handover to the adjacent cell if communication quality requirement is not met or is poor**); further Haartsen discloses that checking the link performance of said another UE in said active cell if the requirement for communication quality cannot be met and judging whether the link performance of said first and second user equipment UEs in said active cell can meet the requirement for communication quality (**Col. 12:28-34, where Haartsen discloses the remote terminals transmitting a message to the base station for assignment of new channels or hop sequence upon detection of deterioration of the quality of link**).

6. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen in view of Klein, and further in view of Ranta et al. (US 2003/0144003), hereinafter referenced as Ranta.**

Consider **claim 11**, the combination teaches everything claimed as implemented above (see claim 10). The combination does not explicitly teach that sending a command for switching to conventional communication mode to said first and second UEs so that said first and second UEs can switch to conventional mode from P2P mode



if the link performance of at least one of said first and second UEs in said active cell cannot meet the requirement for communication quality. Ranta discloses that sending a command for switching to conventional communication mode to said first and second UEs so that said first and second UEs can switch to conventional mode from P2P mode if the link performance of at least one of said first and second UEs in said active cell cannot meet the requirement for communication quality **(Abstract, Para 13, 23, 39, and 42, exhibited in figs. 1 B, 4B and 5).**

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Haartsen and Klein with the teachings of Ranta so as to enhance the performance of the network by establishing and handling connections between mobile stations more efficiently by combining the properties of a cellular network and direct mode connections, as discussed by Ranta **(Para 0008).**

Consider **claim 12**, the combination teach everything claimed as implemented above (see claim 10). In addition, Klein discloses that sending a detection control message to said another UE, to request said another UE to send a detection report about the link performance of said active cell and receiving said detection report from said another UE and checking the link performance of said another UE in said active cell according to said detection report **(Col. 2: 11-57, Figs. 1-3, where Klein discloses plurality of mobile units monitoring pilot signals strength of base stations).**

Consider **claim 13**, the combination teach everything claimed as implemented above (see claim 7). In addition, Klein discloses that receiving a report message about the candidate cells to any UE of said first and second UEs, the report message

indicating that said one UE detects the link performance of an adjacent cell of said active cell can meet the requirement for communication quality and marking each candidate cell of said one UE according to the report message (**Col. 2: 11-57, Col. 13: 6-67, Col. 14:1- 67, Figs. 1-3, where Klein discloses plurality of mobile units monitoring pilot signals strength of base stations**).

Consider **claim 15**, Haartsen disclose everything claimed as implemented above (see claim 14). In addition, Haartsen discloses that a receiving unit, for receiving a cell handover command from said network system, an establishing unit, for establishing a P2P connection with said another UE in said suitable cell (**Abstract, Col. 12: 28-49, Figs. 7D, where Haartsen discloses that base stations send messages to the remote terminals instructing them to listen to broadcast channels of the new base stations and establishing the connection with the new base station i.e. remote terminals have receiving and establishing units**).

**Claim 17**, as analyzed with respect to the limitations as discussed in claim 9.

**Claim 18**, as analyzed with respect to the limitations as discussed in claim 10.

**Claim 19**, as analyzed with respect to the limitations as discussed in claim 5.

**Claim 20**, as analyzed with respect to the limitations as discussed in claim 5.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BABAR SARWAR whose telephone number is (571)270-5584. The examiner can normally be reached on MONDAY TO FRIDAY 09:00 A.M -05:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NICK CORSARO can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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